BIG CREEK HYDROELECTRIC SYSTEM, COTTAGE 113
53934 Huntington Lake Road
Big Creek vicinity
Fresno County
California

HAER CA-167-K
HAER CA-167-K

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

BIG CREEK OPERATOR'S COTTAGE 113
(Cottage 113)

HAER No. CA-167-K

LOCATION: 53934 Huntington Lake Road, Big Creek (Fresno County) California. Township 8 South, Range 25 East, Mount Diablo Base Meridian.

STRUCTURAL TYPE: Wood-frame residential bungalow

DATE OF CONSTRUCTION: 1919

DESIGNER: Southern California Edison Construction Department (architect unknown)

BUILDER: Southern California Edison Construction Department

PRESENT OWNER: Southern California Edison, Northern Hydro Division

PRESENT USE: Vacant

SIGNIFICANCE: Cottage 113 is part of a group of residences constructed for Southern California Edison employees prior to 1929. It is part of the Big Creek Town Site Historic District, itself a part of the historic Big Creek Hydroelectric System.

The Big Creek system was the premiere example of the transition from the construction of isolated power plants serving local markets to the construction of large systems integrated with distant energy markets via high-voltage transmission. The Big Creek system is also significant in the history of the Los Angeles region. Conceived as a means of powering both residential development and electric railways, power from Southern California Edison's Big Creek plants was instrumental in the rise of suburban development in the region.

The system is closely associated with railroad, energy, and development magnate Henry Huntington; with Edison executives and power pioneers A.C. Balch, William Kerckhoff, and George C. Ward; visionary California hydroelectric engineer John Eastwood; and longtime Big Creek manager David Redinger.

Cottage 113 is associated with the development of the Big Creek Townsite.. Big Creek is one of the few company towns still operating in California.

PROJECT INFORMATION:

Southern California Edison Corporation sponsored the research for the project. Daniel Shoup of Archaeological/Historical Consultants (Oakland, California) wrote this report. HAER photography was produced by David De Vries and Marissa Rocke of Mesa Technical (Berkeley, California) between March and June 2010. Don Dukleth of Southern California Edison, Northern Hydro Division (Big Creek, California), and Thomas T. Taylor of Southern California Edison, Corporate Environment, Health, and Safety (Rosemead, California) provided administrative and research support.

Many publications and technical reports offer more detail on the Big Creek system. Former Big Creek superintendent David Redinger's *The Story of Big Creek* remains a key reference work. Other important works include a historic study and significance evaluation of the system, and a study of Big Creek town in the period 1929-1947, both by Laurence H. Shoup.[1]

HAER reports for the Big Creek System prepared to date include:

- Operator Cottage, Big Creek # 8 (HAER CA-167-A)
- Big Creek #3 penstock standpipes (HAER CA-167-B)
- Operator Cottage 105, Big Creek Town (HAER CA-167-C)
- Operator House Garage, Big Creek Town (HAER CA-167-D)
- Big Creek Powerhouse 1 (HAER CA-167-E)
- Big Creek Powerhouse 2/2A (HAER CA-167-F)
- Big Creek Powerhouse 8 (HAER CA-167-G)
- Big Creek Powerhouse 3 (HAER CA-167-H)
- Operator Cottage 115, Big Creek Town (HAER CA-167-I)
- Operator Cottage 112, Big Creek Town (HAER CA-167-J)
- Operator Cottage 113, Big Creek Town (HAER CA-167-K)

[1] Redinger, *Story of Big Creek;* Shoup, *Hardest Working Water;* Idem., *Life at Big Creek.*

Description and Dimensions

Overview

Cottage 113 represents one of several classes of cottage built in Big Creek during the system's period of significance (1911-1929).[2] It is a mirrored twin of Cottage 112, which is located immediately adjacent.

Archival research uncovered no specific information about the construction of this cottage, though other cottages in the Edison-owned part of Big Creek town are known to have been designed and built by the Construction Department of the Southern California Edison Company (see discussion in HAER CA-167-I).

Cottage 113 is a one-story residential building in the Craftsman bungalow style, which was popular in California during the Big Creek period of significance (1911-1929). The house is of stud-wall, wood-frame construction atop a perimeter concrete foundation.. The roof is peaked with a small half-round dormer window on the north side. The roof projects over small exterior porches on the north, east, and west, giving the structure an irregular silhouette. The house faces north and is constructed on top of a hillside that slopes down to the rear of the house. The space between the hill and the rear of the house forms a half-basement.

The house is built on an irregular plan and has maximum dimensions of 38' north-south and 29' east-west. The house is accessed by an entrance porch with a concrete patio and plain banister at the northwest corner and has additional small porches at the northeast and west sides of the house, each of which has an external door.

Exterior

The exterior walls of Cottage 113 are covered with asphalt siding of 1960s or 1970s vintage. Windows have wood trim. The roof is covered in corrugated metal with metal flashing which appears to have been installed in the 1990s or 2000s.

The north or entrance façade has a porch on the right side that projects slightly from the main body of the building. The entrance door is on this porch, which is finished in painted concrete and has a low plain balustrade. Five windows open onto the north façade.

The east façade of the house has a porch at the right-hand (northeast) corner with a door opening onto the mudroom. The mudroom projects from the main line of the house and is accessed by a panel door framed by two windows. The rest of the east façade is broken at the top by six small windows opening onto the kitchen, bathroom, and southeast bedroom. Because the cottage is built on a hill, the height of the façade increases toward the south.

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[2] For an NHRP significance assessment of Big Creek town and the Big Creek system, see Shoup, *Hardest Working Water*.

The south façade of the house is symmetrical under the peak of the roof. Six irregularly-placed windows punctuate the south wall, while an access door below opens onto the basement.

The cottage's west façade has a small projecting porch at its north end, and is interrupted by windows opening onto the living room and southeast bedrooms. The porch, which has a plain balustrade and overhanging roof, opens to the north onto the front yard.

Living Room

The living room is entered from the main entrance door at the north side of the house. The internal dimensions of the room are 15'3" north-south and 13'3" east-west, and it has wood floors throughout. On the west wall of the room, two double-hung six-over-six windows, 2'6" wide, stand on either side of a 3' wide, twelve-light floor-to ceiling window. This window must have replaced a former door in the same location, since it looks onto the small porch on the west side of the building. Doors in the east wall lead to the northeast bedroom and the bathroom hall, while a door in the south wall leads to the southwest bedroom.

Northeast bedroom

The northeast bedroom measures 8' by 8' and is accessed from the living room, kitchen, and mudroom. The room has wood floors. At the northwest corner of the room is a small closet with unfinished built-in shelving inside; its interior dimensions are 4' by 5'. This closet is a later expansion, having been constructed over a portion of the front porch. The red-painted concrete floor visible on the porch also forms the floor of this closet.

Mudroom

To the east of the northeast bedroom is a small room measuring 8' by 6'6". The floor is covered with linoleum. The room is lit on the north side by two 6-light fixed windows, 2'2" wide, on the east side by two single pane windows, 1'9" wide, and on the south side by one small window, 1'10" wide. A door in the east wall leads to a concrete porch on the east side of the house, with stairs leading down the slope to the south.

Kitchen

The kitchen measures 12'6" east-west and 8' north-south. It is accessed on the north wall from the northeast bedroom and on the south wall from the hallway. The floors are covered with linoleum. A recent sink and countertop span the east end of the room. Above this countertop in the corners of the room are a pair of small built-in cabinets with older brass hardware. In the center of the east wall are two double-hung 1-over-1 windows, each 2' wide. On the south wall of the kitchen is a stove unit that appears to be of 1980s vintage. The west wall is dominated by a built-in cabinet above pull-out drawers. It appears that originally there was an opening onto the living room between the stove and cabinet, presumably for passing food through from the kitchen.

Hall

South of the kitchen, a hallway 7'6" long and 4'9" wide provides access to the living room, bathroom, and bedrooms at the south end of the house. The hallway has wood floors and a built-in cupboard that appears to be original.

Bathroom

The bathroom measures 7'1" by 6'11" and has linoleum floors. The bathtub and shower unit is located on the left as you enter, while a toilet and sink are installed along the east wall. Above the sink a small, mirrored cabinet is mounted on the wall. The room is lit by a 1'6" wide, double-hung, 4-over-4 window above the toilet.

SE bedroom

The southeast bedroom measures 10'7" east-west and 8'2" north-south. The room has wood floors and is accessed from a door at its northwest corner that leads to the hall. The room also has a small closet at its northwest corner measuring 3'10" wide and 2'10" deep. The room is lit by seven six-light, side-pivoting windows, three on the east wall and four on the south wall.

SW bedroom

The southwest bedroom has interior dimensions of 12' by 12' and is accessed by doors at its northeast corner leading to the living room and the hallway. The room has wood floors and is lit by one double-hung 8-over-8 window on its west side and one double-hung 6-over-6 window on its south side. At the southeast corner of the room a door leads to a small closet measuring 3'9" wide by 2'10" deep. The closet has built-in shelves and a narrow window 12" across on its south side.

Basement

The house has a half-basement only on the south side of the house. The basement occupies the space created by the slope of the hill on which the cottage was built. The basement consists of two unfinished storage rooms and one semi-finished room.

Present Condition and Use

Cottage 113 was used as a single-family residence from its construction in 1919 until early 2010. While the structure has seen only minor modifications since its construction, it is in only fair condition. Ceilings, roof, and siding have been replaced through most of the house. The floors and wallboard, while mostly original, show heavy use or damage in many areas.

Exterior

The roof of the structure is recent (within the last 10 years) and in good condition. The exterior walls of the cottage have asbestos siding that appears to date from the 1950s or 1960s. The siding shows some cracking. The concrete patio at the north entrance of the

building is cracked and in poor condition. The concrete steps on the east side of the building are also in poor shape. Paint on the exposed wooden moldings is in fair to poor condition. The balustrade on the north porch appears original, while the balustrade on the west porch is of a different type and appears to have been installed later. At some point a portion of the north porch was built over to provide additional interior closet space.

Living Room

Wood floors in this room are generally faded. A large circular mark in the floor along the south wall shows the former placement of a stove. The wall behind the stove was covered with slabs of wire mesh imbedded in plaster. The door to the west porch was converted at some point to a floor-to-ceiling window and no longer opens. An in-wall air conditioning unit is located at the southeast corner of the room. Other windows and the front door appear original and match those of Cottage 112 next door. The asbestos tile ceiling is in fair condition but is not original.

Northeast bedroom

The major modification to this room is the addition of a closet along its west wall, which was built out onto the front porch. Wood floors in the room are in fair condition and show heavy scuffing and marking. Baseboard heaters line the walls. The wallboard appears to have been replaced since construction, but doors are original. Tile ceiling similar to that in the living room was installed after original construction.

Mudroom

The linoleum floor appears to have been installed in the past 10 years. The windows do not appear original.

Kitchen

The kitchen has a recently installed linoleum floor. Countertops and stove have been replaced in the last decade. The windows and built-in cabinets may be original and are in good condition. The shelf under the cabinets appears to have originally opened onto the living room but is now blocked off. Ceiling is tile.

Bathroom Hall

The bathroom hall has original built-in cabinets in good condition. A large hole has been cut into the wooden floors and covered in plywood. Walls are in good condition.

Southwest Bedroom

Floors and walls are in good condition, and windows appear original. A baseboard heater has been installed along the south wall. The width of the wallboard in this room is wider than in the living room, suggesting that it may have been installed later. Closet window and shelves appear original.

Southeast Bedroom

Floors are heavily scratched but in fair condition. Wall paneling is similar to that in the southwest bedroom. Windows open horizontally. One six-light window may be a replacement.

Bathroom

Windows and vanity are original. Toilet, sink, tub/shower unit, and linoleum floor have been installed in the last 20 years.

History

The Big Creek system was the brainchild of visionary engineer John Eastwood (1857-1924), who first identified the Big Creek and San Joaquin River systems as ideal locations for a series of storage reservoirs and power plants.[3] In 1901, Allan C. Balch and William G. Kerckhoff of Pacific Light and Power hired Eastwood to survey the region and plan a network of powerhouses.[4] Controlled by Henry Huntington, Pacific Light and Power was created to generate electricity for his interconnected system of Los Angeles street railroads and real estate developments. It was not until 1910, however, that growth in demand in the Los Angeles region justified construction of the Big Creek system.

The town of Big Creek (called Cascada until 1926) was established in late 1911 as a construction camp for the Stone and Webster Construction Company, which built Powerhouses 1 and 2 for the Pacific Light and Power Corporation. Completed in late 1913, these two powerhouses had four generating units producing 80,000 horsepower, using some of the highest heads in the country. At 240 miles long, the power lines connecting Big Creek with Los Angeles were among the world's longest, and set a new record for using 150kV in commercial transmission. *Electrical World* recognized the feats achieved in the construction of the system as "one of the most advanced contributions of the engineer to the welfare of civilization".[5]

The outbreak of World War I in 1914 affected both the American credit markets and power consumption, delaying expansion plans for Big Creek.[6] In the meantime, however, Pacific Light and Power merged with Southern California Edison in 1917, fulfilling Henry Huntington's dreams of consolidating Southern California utilities under his control. The two systems complemented each other: PLP had extensive street railroad interests but relatively limited residential service, and the Big Creek plants provided more electricity than it could use. Edison, on the other hand, had a rapidly expanding residential business and was facing a looming shortfall of generation capacity.[7]

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[3] Shoup, *Hardest Working Water,* 55-59; Whitney, "John Eastwood", 38, 41.
[4] Shoup, *Hardest Working Water,* 83.
[5] *Electrical World,* "The 150,000-Volt Big Creek Development – I." January 3, 1914, 33.
[6] Shoup, *Hardest Working Water,* 153.
[7] *Electrical World,* "Merger of California Hydroelectric Systems," December 9, 1916, 1134.

The great expansion of the Big Creek system began in 1920 with the construction of Powerhouse 8. Powerhouses 1 and 2 were expanded between 1921 and 1925, and Powerhouse 3 was built in 1923. The later 1920s saw the addition of more storage capacity to the system through the construction of Florence Lake, the Mono-Bear Conduit, and the expansion of Shaver Lake. The latter project provided water to feed Powerhouse 2A, which was completed in 1928. When construction wound down in 1929, the system had set world records for voltage used in transmission, tunnel size and length, dam length, and size of hydraulic equipment. The system used half a million horsepower to generate over 400,000 kilowatts of electricity.[8]

The expansion of the Big Creek system led to a rapid expansion of both population and development in the early 1920s. By 1923 the town was divided into two distinct areas: a company town on 50 acres near the powerhouse and an upper, private town on the other side of the incline railway. Though the land was owned by the US Forest Service, construction in the company part of town was covered by a special use permit issued to Southern California Edison.[9] Cottage 113, dating to about 1919, was one of the cottages built in the lower, company-operated part of town and may have been built in anticipation of the greatly increased need for company housing that would come as part of the 1920s Big Creek system expansion.[10]

Big Creek and the surrounding construction camps, which had only around 500 residents in 1920, grew to 1,400 in 1923 and to over 5000 by the middle of the decade.[11] The school population doubled from 80 students in 1922 to 150 students in late 1923.[12] As long time Big Creek superintendent David Redinger recalled:

> Uptown Big Creek was enjoying a boom during the '20s, such as it never knew before or has known since. Our five-thousand to fifty-two hundred men, spread over thirty-two camps, kept three barber shops and six dentists busy… Reardon's movie theater provided good films and current news reels. Busiest of all was Murphy's Art Shop. If he didn't have what you wanted, he would order it - whether it was a penny article or a grand piano.[13]

The town main street also included a hardware store, bakery, butcher shop, laundry, dry goods store, real estate office, a restaurant, a general store, and a women's clothing store.

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[8] Shoup, *Hardest Working Water,* 163.
[9] Ibid., p.262.
[10] Original construction documents could not be found during research for this project, but a Southern California Edison inventory, showing a 1919 construction date for Cottage 113, is appended to a January 2000 Memorandum of Agreement between the Federal Energy Commission and the California State Preservation Office regarding removal of Big Creek Townsite domestic structures.
[11] Fourteenth Census of the United States, Cascada Precinct, Fresno County, California; *Edison Facts,* October 1923, 14; Redinger, *Story of Big Creek,* 117.
[12] Shoup, *Hardest Working Water,* 265.
[13] Redinger, *Story of Big Creek,* 117.

Company cottages such as Cottage 113 were seen as desirable by many employees, since they were subsidized by Southern California Edison. At most times, demand for company cottages outstripped supply, and cottages were assigned based on seniority and the number of children in a family. Cottage 113 was therefore probably assigned to an employee who was married with children.

The end of major construction work at Big Creek coincided with the Wall Street crash of 1929. By the end of 1929 the Big Creek Division had only 190 employees, and the onset of the depression led to cutbacks in staffing and hours in the following years. A serious fire destroyed much of the business district in 1930, and many of these businesses were not rebuilt.[14] Though the population of Big Creek increased somewhat after the 1940s, it has never again reached the level of the 1920s.

Sources of Information

Research Sites

Archival research for this report was conducted in the following locations:

- Bancroft Library, University of California, Berkeley, California
- University of California Northern Regional Library Facility, Richmond Field Station, Richmond, California
- Southern California Edison Collection, Huntington Library, San Marino, California
- Plant Accounting Department, Southern California Edison Company, Rosemead, California
- Northern Hydro Division Headquarters, Southern California Edison Company, Big Creek, California

Works Cited

Edison Facts, October 1923, 14.

Electrical World, "The 150,000-Volt Big Creek Development – I." January 3, 1914, 33.

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Hill, Ward, "Primary Record: Big Creek Town Site" (California State Historic Preservation Office Primary Record), 1999.

Edison Partners, "Contented Labor", September 7, 1923, 6.

Fourteenth Census of the United States, Cascada Precinct, Fresno County, California, 1920. On file, University of California at Berkeley

Redinger, David, *The Story of Big Creek.* Los Angeles: Angelus Press, 1949.

[14] Shoup, *Hardest Working Water,* 301.